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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,803	07/10/2003	Gregory S. Hamilton	054707-1231	1915

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EXAMINER	
AULAKH, CHARANJIT	

ART UNIT	PAPER NUMBER
1625	

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/615,803	HAMILTON ET AL.	
	Examiner	Art Unit	
	Charanjit S. Aulakh	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *84-92* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *84-92* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. According to paper filed on April 7, 2004, the applicants have elected group VI drawn to compounds of formula IV (compounds 81 and 82) represented by table III on page 30 without traverse in response to restriction requirement.

2. Claims 84-92 are now pending in the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 88-92 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating parkinsonism, does not reasonably provide enablement for effecting a neuronal activity or treating all neurological disorders. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The following eight different factors (see Ex parte Foreman, 230 USPQ at 547 ; Wands, In re, 858. F. 2d 731, 8 USPQ 2d 1400, Fed. Cir. 1988) must be considered in order for the specification to be enabling for what is being claimed :

Quantity of experimentation necessary, the amount of direction or guidance provided, presence or absence of working examples, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability and the breadth of claims. In the instant case, the specification is not enabling based on atleast

four of the above mentioned eight factors such as quantity of experimentation necessary, the amount of direction or guidance provided, presence of working examples, the state of the prior art and the breadth of claims.

The instant compounds are shown to promote neurite outgrowth in vitro using cultured chick sensory neurons from dorsal root ganglia as well as found to be effective in an animal model of parkinson's disease following their in vivo administration as shown by experimental data in table IV on pages 51-53. Based on these data, the instant compounds will have utility in treating parkinson's disease. It is well known in the art that in vitro activity of a compound does not necessarily correlate with in vivo activity since in vivo activity depends on several factors such as absorption, metabolism etc. There is no teaching either in the specification or prior art that promotion of neurite outgrowth in vitro using chick sensory neurons represents a valid model for efficacy in vivo activity of compounds for effecting neuronal activity in general. There is no teaching in the specification that the etiology of all known neurological disorders and neurodegenerative disorders is same. It is well known that in parkinson's disease (a neurodegenerative disorder), there is loss of dopaminergic neurons whereas in Alzheimer disease (another neurodegenerative disorder), there is loss of cholinergic neurons. There is no teaching in the specification or prior art that the same mechanism is responsible for degeneration of dopaminergic neurons in Parkinson's disease as well as for degeneration of cholinergic neurons in Alzheimer's disease or degeneration of noradrenergic neurons or gabaergic neurons. Furthermore, it is well known in the art that all known neurological disorders do not have degeneration of neurons such as

schizophrenia, depression etc. There are no working examples present showing efficacy of instant compounds in known animal models of all neurological disorders and all known neurodegenerative disorders except Parkinsonism. The instant compounds of formula IV encompasses hundreds of thousands of compounds based on the values of variables X, Z, R3 and R4 and therefore, in absence of such teachings, guidance and presence of working examples, it would require undue experimentation to demonstrate the efficacy of the instant compounds in known animal models of all known neurological and neurodegenerative disorders and hence their utility for treating such conditions.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 88 and 89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 88, the term –effecting--- is indefinite since it is not clear how and where the neuronal activity is being effected? Does it mean increasing or decreasing the activity and furthermore, is it being effected in periphery, spinal cord, hypothalamus, hippocampus, amygdala, substantia nigra, cortex etc. ? What is the end result of effecting neuronal activity ? Does it help in treating some disease condition? If so, the applicants are suggested to include the disease condition to be treated in the claim.

In claim 89, the term –prevention--- is indefinite since the degree of prevention (20%, 40%, 60% or 100%) is not defined and furthermore, how to assess some body at risk for neurodegeneration in order to prevent it by administering instant compounds.

7. Claims 84-92 are objected as containing non-elected subject matter.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 84-92 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,486,151. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant compounds directed to the elected group, pharmaceutical compositions containing these compounds and a method of promoting neuronal growth using these compounds are encompassed by the low molecular weight, small molecule heterocyclic ketone and thioester compound of the cited patent.

Allowable Subject Matter

10. The following is a statement of reasons for the indication of allowable subject matter:

The instant compounds directed to the elected group, pharmaceutical compositions containing these compounds and a method of treating Parkinson's disease using these compounds are allowable over the prior art since they are neither disclosed nor obvious over the prior art. In the art, Steiner (U.S. Patent no. 6,274,602) discloses compounds 78 and 79 in table III (see col. 15) which do anticipate the instant compounds. However, this patent does not constitute a prior art reference since the effective filing date of the instant application (Sep. 25, 1996) is much earlier than the effective filing date (June 3, 1998) of the cited patent.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charanjit S. Aulakh whose telephone number is (571)272-0678. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)272-0699. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. S. Aulakh

Charanjit S. Aulakh
Primary Examiner
Art Unit 1625